

What is claimed is:

1. A method for providing redundant back-up to ensure a treatment therapy provided by a medical device system is turned off comprising the steps of:

- (a) receiving an ON command signal to activate delivery of the treatment therapy to a patient;
- (b) initiating a cycle ON timer to operate for a predetermined cycle ON time;
- (c) delivering the treatment therapy to the patient;
- (d) determining whether the cycle ON timer has expired prior to receiving an OFF command;
- (e) if the OFF command is received, turning off the treatment therapy; and
- (f) if the cycle ON timer has expired prior to receiving the OFF command, turning off the treatment therapy regardless of whether the OFF command signal is received.

2. The method of claim 1, further comprising the steps of:

- (g) initiating a cycle OFF timer to operate for a predetermined cycle OFF time;
- (h) preventing delivery of the treatment therapy until either the cycle OFF timer has expired or the OFF command is received;

3. The method of claim 2, further comprising the steps of:

- (i) if the cycle OFF timer has expired, reinitiating the cycle ON timer and delivering the treatment therapy to the patient; and
- (j) if the OFF command is received, turning off the cycle OFF timer.

4. The method of claim 1, wherein the step of delivering comprises the step of delivering at least one treatment therapy selected from the group consisting of electrical stimulation, magnetic stimulation, drug infusion, and brain cooling.

5. The method of claim 1, wherein at least one of the steps is performed using discrete logic circuitry.

6. The method of claim 1, wherein at least one of the steps is performed by computer software.

7. The method of claim 1, wherein each of the steps are performed in a therapy delivery component of the medical device system.

8. The method of claim 1, wherein each of the steps are performed in a stimulation board of the medical device system.

9. The method of claim 1, wherein the cycle ON time is programmable.

10. The method of claim 1, wherein the cycle ON time is predefined.

11. A medical device system that provides redundant back-up to ensure a treatment therapy is turned off comprising in combination:

(a) a first component capable of transmitting an ON command signal to activate delivery of the treatment therapy to a patient and an OFF command signal to terminate delivery of the treatment therapy to a patient;

(b) a second component capable of receiving the ON command signal deliver the treatment therapy to the patient and capable of receiving the OFF command terminate delivery of the treatment therapy to the patient;

(c) a cycle ON timer within the second component capable of being activated in association with delivery of the treatment therapy to the patient,

wherein the second component is also responsive to the cycle ON timer for causing termination of delivery of the treatment therapy in the event that the second component does not receive an OFF command from the first component for a period longer than a predetermined cycle ON time and during which time the treatment therapy is being delivered.

12. The medical device system of claim 11, wherein the first component is a physician programmer.

13. The medical device system of claim 11, wherein the first component is an external device.

14. The medical device system of claim 11, wherein the second component is a bedside device.

15. The medical device system of claim 11, wherein the second component is an implanted device.

16. The medical device system of claim 11, further comprising discrete logic within the second component for performing the steps of: (i) initiating the cycle ON timer to operate for the predetermined cycle ON time; (ii) determining whether the cycle ON timer has expired prior to receiving an OFF command; and (iii) if the cycle ON timer has expired prior to receiving the OFF command, turning off the treatment therapy regardless of whether the OFF command signal is received.

17. The medical device system of claim 16, wherein the discrete logic is configured to perform the following additional steps: (iv) initiating a cycle OFF timer to operate for a predetermined cycle OFF time; and (v) preventing delivery of the treatment therapy until either the cycle OFF timer has expired or the OFF command is received.

18. The medical device system of claim 17, wherein the discrete logic is configured to perform the following additional steps: (vi) if the cycle OFF timer has expired, reinitiating the cycle ON timer and delivering the treatment therapy to the patient; and (vii) if the OFF command is received turning off the cycle OFF timer.

19. The medical device system of claim 11, further comprising computer executable instructions within the second component for performing the steps of: (i) initiating the cycle ON timer to operate for the predetermined cycle ON time; (ii) determining whether the cycle ON timer has expired prior to receiving an OFF command; and (iii) if the cycle ON timer has expired prior to receiving the OFF command, turning off the treatment therapy regardless of whether the OFF command signal is received.

20. The medical device system of claim 19, wherein the computer executable instructions are configured to perform the following additional steps: (iv) initiating a cycle OFF timer to operate for a predetermined cycle OFF time; and (v) preventing delivery of the treatment therapy until either the cycle OFF timer has expired or the OFF command is received.

21. The medical device system of claim 20, wherein the computer executable instructions are configured to perform the following additional steps: (vi) if the cycle OFF timer has expired, reinitiating the cycle ON timer and delivering the treatment therapy to the patient; and (vii) if the OFF command is received turning off the cycle OFF timer.

22. The medical device system of claim 11, wherein the cycle ON time is programmable.

23. The medical device system of claim 11, wherein the cycle ON time is predefined.